



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,170	12/10/2003	Yong Cheol Park	0465-1110P	5045
2292	7590	09/26/2006	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			GUPTA, PARUL H	
			ART UNIT	PAPER NUMBER
			2627	

DATE MAILED: 09/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/731,170

Applicant(s)

PARK ET AL.

Examiner

Parul Gupta

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. Claims 1-20 are pending for examination as interpreted by the examiner. The IDS filed on 10/18/04 was considered.

#### ***Claim Objections***

2. Claim 20 is objected to because of the following informalities: minor typographical errors such as the unnecessary insertion of the letter "a" in "another area of a data area and recording a information that the replacement recording has been performed". Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. With respect to claims 1, 12, and 17, the omitted steps are: writing the replacement-recording data to the disc. Examiner suggests inserting the word "writing" immediately before "replacement-recording data" after the preamble in claims 1, 12, and 17.

#### ***Double Patenting***

4. Claim 20 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 17 of U.S. Patent Publication No. 2004/0114474. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the reasons stated below.

Claim 20 recites "an apparatus for recording/reproducing a write-once optical disc, comprising: a controller for transferring a recording command for requesting recording on a specified area of the disc; and a recording/reproducing device for judging whether the specified area is an area where recording is completed or an area where no recording is performed, and replacement-recording data in another area of a data area and recording a information if it is judged that the specified area is the area where the recording is completed" which is the same as claim 17 of the patent publication.

It is clear that all the elements of claim 20 are to be found in claim 17. The difference between claim 20 of the application and claim 17 of the patent publication lies in the fact that the patent application claim includes the purpose of ensuring continuity of the user data. Thus, it would be obvious to record management information on the disc in order to perform the function of ensuring continuity of the user data area can be secured even after the replacement-recoding operation; therefore, claim 20 is not patentably distinct from claim 17.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 1-6, 12-15, and 20 are rejected under 35 U.S.C. 102(a) as being anticipated by Takano et al., US Patent 5,448,728.

Regarding claim 1, Takano et al. discloses a method of managing overwrite on an optical disc write once (column 1, lines 40-45), comprising: writing replacement-recording data which is requested to be overwritten in a specified area of the disc where recording is completed in another data area physically separated from the specified area in the disc (column 1, lines 60-61); and producing and recording management information for reproducing the physically replacement-recorded data (column 1, lines 61-64).

Regarding claim 2, Takano et al. discloses in figure 10B the method of claim 1, wherein the data requested to be overwritten is replacement-recorded before an outer spare area (F or F2) among the data area of the disc (column 9, lines 48-62).

Regarding claim 3, Takano et al. discloses the method of claim 1, wherein the data which is requested to be overwritten is consecutively replacement-recorded after a final data recording position ("last data-written block") among the data area of the disc (column 6, lines 2-8).

Regarding claim 4, Takano et al. discloses in figure 10B the method of claim 1, wherein the data which is requested to be overwritten is replacement-recorded in an overwrite area (21) separately allocated in the data area of the disc (column 9, lines 53-55).

Regarding claim 5, Takano et al. discloses in figure 10B the method of claim 1, wherein the data which is requested to be overwritten is replacement-recorded in a spare area (21) of the disc (column 9, lines 53-55).

Regarding claim 6, Takano et al. discloses the method of claim 1, wherein the management information includes address information of the specified area which is requested to be overwritten, size information of the area, and address information of a replacement-recorded position, which are recorded in association with one another (column 7, lines 38-40).

Regarding claim 12, Takano et al. discloses a method of recording management information on an optical disc write once (column 1, lines 40-45), comprising: replacement-recording data of an area of the disc, where an overwrite is requested or a defect is produced, in a specified area of the disc; and in recording management information on the overwrite (column 7, lines 34-40), separately recording the management information in a case that one recording unit is replacement-recorded and the management information in a case that a plurality of recording units are replacement-recorded (column 7, lines 31-43). The given section actually explains the difference between replacing one recording unit ("block") versus two or more.

Regarding claim 13, Takano et al. discloses the method of claim 12, wherein identifier information ("management data" written in different area) is recorded in the management information in order to discriminate the management information in the case that the one recording unit is replacement-recorded from the management information in the case that the plural recording units are replacement-recorded (column 7, lines 31-43).

Regarding claim 14, Takano et al. discloses the method of claim 13, wherein the management information in the case that the one recording unit is replacement-

recorded and the management information in the case that the plural recording units are replacement-recorded are recorded in the same management area in the disc (column 7, lines 31-43).

Regarding claim 15, Takano et al. discloses the method of claim 12, wherein the management information in the case that the one recording unit is replacement-recorded records an original area before being replacement-recorded and positional information of the replacement-recorded area as one entry (all shown as one "block" as explained in column 7, lines 38-40 and lines 47-51).

Regarding claim 20, Takano et al. discloses in figure 1 an apparatus for recording/reproducing an optical disc write once (column 1, lines 40-45), comprising: a controller (14) for transferring a recording command for requesting recording on a specified area of the disc (column 5, lines 40-45); and a recording/reproducing device for judging whether the specified area is an area where recording is completed or an area where no recording ("non-writing area") is performed (column 1, lines 57-61), and replacement-recording data in another area of a data area and recording a information that the replacement recording has been performed as management information on the disc if it is judged that the specified area is the area where the recording is completed (column 7, lines 31-43 explain more clearly how and where the information is recorded).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2627

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 7, 9-11, and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takano et al. in view of Fukushima et al., US Patent 5,111,444.

Takano et al. teaches the limitations of independent claims 1, 6, and 12, as set forth above.

Regarding claim 7, Takano et al. does not but Fukushima et al. teaches a method, wherein if a size of the area which is requested to be overwritten is smaller than a specified size, the management information is recorded as one entry ("partition"), and if the size of the area is larger than the specified size, the management information is recorded as plural entries (column 6, line 67 to column 7, line 8 and column 7, lines 21-23).

Regarding claim 9, Takano et al. does not but Fukushima et al. teaches a method, wherein the management information includes start address information and end address information of the specified area requested to be overwritten, and start address information and end address information of a replacement-recorded position, which are recorded in association with one another (column 3, lines 26-32), which explains that all of the given information is stored in the management information as "control data". Fukushima et al. further discloses the need for different numbers of partitions, as explained in column 6, line 67 to column 7, lines 8 and lines 21-23.

Regarding claim 10, Takano et al. does not but Fukushima et al. teaches a method wherein the management information is recorded as plural entries ("partitions" of column 6, line 67 to column 7, line 8 and column 7, lines 21-23).



Regarding claim 11, Takano et al. does not but Fukushima et al. teaches a method wherein, while recording the management information on a replacement-recorded area according to an overwrite request, identifier information, which is discriminated from the management information on a replacement-recorded area, is further recorded due to producing of a defect area ("defect list" of column 2, lines 47-57).

Regarding claim 16, Takano et al. does not but Fukushima et al. teaches a method wherein the management information in the case that the plural recording units are replacement-recorded records start address information and end address information of an original area before being replacement-recorded, and start address information and end address information of a replacement-recorded position as plural entries (column 3, lines 26-32), which explains that all of the given information is stored in the management information as "control data". Fukushima et al. further discloses the need for different numbers of partitions as explained in column 6, line 67 to column 7, line 8 and column 7, lines 21-23.

Regarding claim 17, Takano et al. teaches a method of recording management information on a write-once optical disc (column 1, lines 40-45), comprising: writing replacement-recording data on an area of the disc, where an overwrite is requested or a defect is produced, in a specified area of the disc; and recording management information on the overwrite (column 7, lines 34-40). Takano et al. does not but Fukushima et al. teaches separately recording the management information when the

data is replacement-recorded by an overwrite request and when the data is replacement-recorded due to a defect area ("defect list" of column 2, lines 47-57).

Regarding claim 18, Takano et al. does not but Fukushima et al. teaches a method wherein identifier information is recorded in the management information in order to discriminate the management information when the data is replacement-recorded by the overwrite request from the management information in a case that the data is replacement-recorded due to the defect area ("defect list" of column 2, lines 47-57).

Regarding claim 19, Takano et al. does not but Fukushima et al. teaches a method, wherein the management information when the data is replacement-recorded by the overwrite request and when the data is replacement-recorded due to the defect area are recorded in the same management area in the disc, but are separately recorded by sorting (column 2, lines 47-57). Figure 2 shows how the management information is given in the "partition control area" while the defect area is recorded in the "alternative zone control area" of the same "volume control area" of the management area.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of the given method of recording management information as taught by Fukushima et al. into the system of Takano et al. Although Takano et al. teaches the given method of replacement-recording data, there is no clear indication of the details of the management area referred to within the

disclosure. Fukushima et al. teaches the details of the management area itself. The motivation would be to be capable of managing defective sectors in a disk-shaped information recording medium which can manage defective sectors even in non-rewritable mediums despite limited space on the medium(column 2, lines 22-25 of Fukushima et al.).

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takano et al. in view of Hwang et al., US Patent Publication 2004/0076096.

Takano et al. teaches the limitations of independent claim 6 as set forth above, but fails to teach the further limitations of claim 8. Hwang et al. teaches a method, wherein the management information is recorded in a temporary defect management area (TDMA) of the disc (paragraph 0048). It would have been obvious to one of ordinary skill in the art at the time of the invention to include the concept of recording management information into the TDMA of the disc as taught by Hwang et al. into the system of Takano et al. The motivation would be to temporarily store the data to quickly update it before storing it in a more permanent location on the disc (paragraph 0049 of Hwang et al.).

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nakahara et al., US Patent 6,845,069 serves the same general purpose of editing data on a write-once recording medium.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Parul Gupta whose telephone number is 571-272-5260. The examiner can normally be reached on Monday through Thursday, from 9:30 AM to 7 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington can be reached on 571-272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PHG  
9/19/06

  
ANDREA WELLINGTON  
SUPERVISORY PATENT EXAMINER